Serial No.: 09/925,778
Group Art Unit No.: 1651

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method of modulating an activity of a DXR reductoisomerase enzyme of *Haemophilus influenzae* comprising contacting said enzyme with a compound that modulates an activity of said enzyme, provided that said activity is not inhibition of DXR by fosmidomycin, fosfomycin, FR-33289, or FR-900098, or binding to DXR of fosmidomycin, fosfomycin, FR-33289, or FR-900098 to DXR.

2. (Currently Amended): The method according to claim 1, wherein said activity is selected from the group consisting of :

formation of a dimer;

~~use of manganese as a substrate by DXR;~~

use of NADPH as substrate by DXR;

NADPH binding to DXR prior to or simultaneous with manganese binding;

isomerization of substrate;

binding of substrate;

reductoisomerizations;

~~binding of DXR with a cellular component;~~

conversion of 1-deoxy-D-xylulose-5-phosphate to 2C-methyl-D-erythritol-4-phosphate; and

conversion of NADPH to NADP.[[;]]

~~inhibition of DXR by fosmidomycin, fosfomycin, FR-33289, or FR-900098; and~~

~~binding to DXR of fosmidomycin, fosfomycin, FR-33289, or FR-900098 to DXR;~~

3. (Original): The method according to claim 1, wherein said modulating is inhibiting.

4. (Original): The method according to claim 1, wherein contacting said enzyme with said compound inhibits the biosynthesis of isoprenoids.

5. (Original): The method according to claim 1, wherein contacting said enzyme with said compound inhibits the biosynthesis of either menaquinone or ubiquinone or biosynthesis of both menaquinone and ubiquinone.

6. (Currently Amended): The method of claim 1, wherein said *Haemophilus influenzae* DXR reductoisomerase enzyme is selected from the group consisting of:

(i) ~~an polypeptide~~a polypeptide comprising the amino acid sequence of SEQ ID NO:2,

(ii) ~~an polypeptide~~a polypeptide that is the amino acid sequence of SEQ ID NO:2, and

(iii) a polypeptide encoded by a polynucleotide comprising the polynucleotide sequence of SEQ ID NO:1.

7. (Original): The method according to claim 1, wherein said compound forms a stable complex comprising said enzyme and said compound.

8. (Original): The method according to claim 1, wherein contacting with said compound kills or inhibits replication of a *Haemophilus influenzae* carrying said enzyme.

9. (Original): The method according to claim 8, wherein said contacting step occurs *in vitro*.

10. (Original): The method according to claim 8, wherein said contacting step occurs in a mammal infected with said *Haemophilus influenzae*.

11. (Original): The method according to claim 8, wherein said contacting step occurs *ex vivo*.

12. (Withdrawn): A method for treating a mammal or mammalian tissue infected with *Haemophilus influenzae* comprising a DXR reductoisomerase enzyme, said method comprising administering to said mammal an effective amount of a pharmaceutical composition comprising a compound that inhibits a *Haemophilus influenzae* DXR reductoisomerase enzyme in a pharmaceutically or physiologically acceptable carrier.

13. (Withdrawn): The method according to claim 12 wherein said composition is administered by a route selected from intravenous, oral, intradermal, transdermal, intraperitoneal, intramuscular, subcutaneous, inhalation, and mucosal.

14. (Withdrawn): The method according to claim 12, wherein an effective amount of said compound comprises about 1 mg to 500 mg.

15. (Withdrawn): The method according to claim 12, wherein said mammal is a human.

16. (Withdrawn): The method according to claim 12, wherein said mammal is a domestic animal.

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17. (Withdrawn): A method for disinfecting a surface comprising contacting said surface with a composition comprising a compound which inhibits a *Haemophilus influenzae* DXR reductoisomerase enzyme.

18. (Withdrawn): The method according to claim 17, wherein said surface is a biological tissue.

19. (Withdrawn): The method according to claim 17, wherein said surface is part of a non-living structure.

20. (Withdrawn): The method according to claim 17, wherein said contacting step comprises administering a suitable disinfecting dosage of said composition by means selected from the group consisting of coating, spraying, implanting, and soaking.